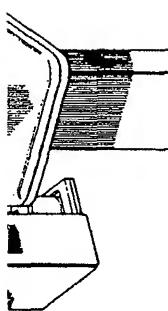


Appendix 1



Schematic of a fully automatic, cassette-loaded, epitaxial reactor. Key: 1,4: Cassette ports;
2: wafer transfer chamber; 3: process chamber; 5: wafer handling mechanism.
Courtesy of ASM Epitaxy, Phoenix, Arizona.

VLSI FABRICATION PRINCIPLES

Silicon and Gallium Arsenide

Second Edition

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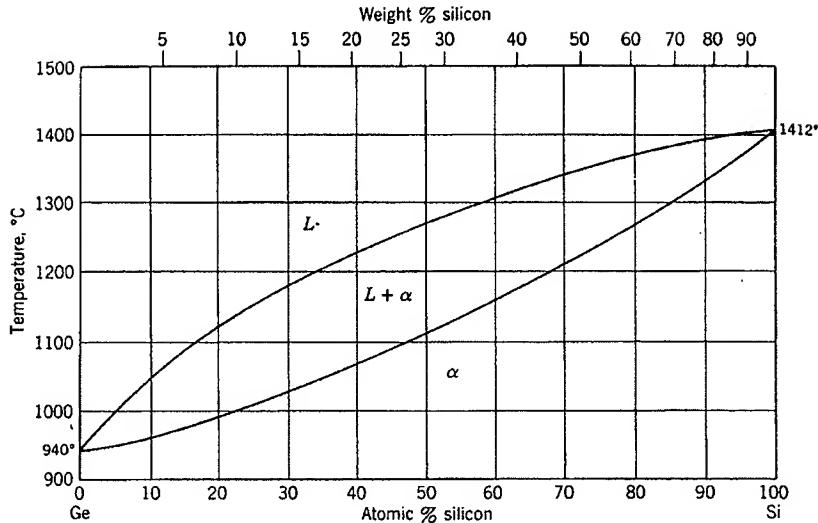


Fig. 2.3 Binary isomorphous phase diagram: The Ge-Si System. from Hansen and Anderko, *Constitution of Binary Alloys*, McGraw-Hill, New York (1958) [2]. Used with permission of the McGraw-Hill Book Company.

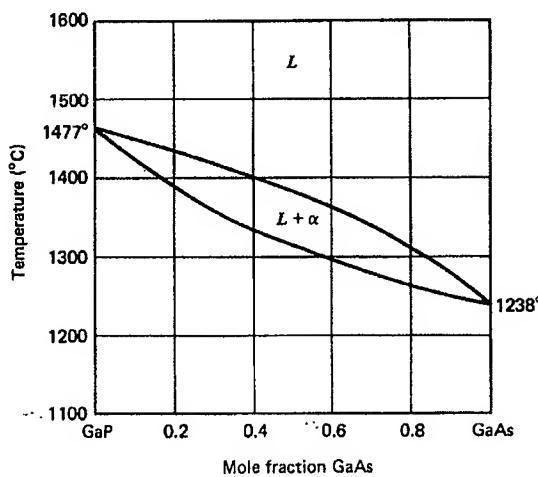


Fig. 2.4 The GaAs-GaP system. From Antypas [5]. Reprinted with permission of the publisher, The Electrochemical Society, Inc.

this reason, and most electronic properties o

The energy gap of n two extremes associate only approximately lin is given by

The indirect gap (x)

Combining these eq $x \leq 0.43$, but indirect ga of indirect gap $\text{Al}_x\text{Ga}_{1-x}$ tors. Moreover, the sur when its surface dangling an extension of its crys exploited in the fabrica

The ternary alloy C red light emitting diod $\text{GaAs}_{0.6}\text{P}_{0.4}$ is mismatch device quality material thick buffer layer, grad top, is grown between t misfit dislocations which the GaAs substrate.

More complex sol made. For example, qu III^A_xIII^B_{1-x}V_yC_{1-y}, III^A_xII_{1-x} and are used in some de scope of this book.

2.2.4 Eutectic Diagrams

Eutectic diagrams result its overall freezing point molten mixture has a m value is known as the *eutectic composition*. If all components are completely soluble in the solid phas

Referring to Fig. 2.1